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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,260	10/21/2003	Scott L. Adriaansen	SP03-144	5452

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EXAMINER

DANIELS, MATTHEW J

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/691,260	Applicant(s) ADRIAANSEN ET AL.	
	Examiner Matthew J. Daniels	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In the response received 14 November 2005, Claims 1-7 and 14-19 were cancelled and Claims 10, 11, and 13 were amended. There are no new claims.

Election/Restrictions

2. Applicant's election of Group II, Claims 8-13 in the reply filed on 14 November 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 112

3. Rejections set forth previously under this section are withdrawn in view of the amended claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 8, 10, 12, and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Avery (USPN 5205991) in view of DeMasters (USPN 5431866). **As to Claim 8**, Avery teaches a method of extruding a plasticized ceramic extrudate comprising

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- b) supporting the extrudate on an extrudate support (Fig. 2, Items 12, 22, 23),
- c) cutting the extrudate to form a cut section of the extrudate (Fig. 2, Item 25),
- e) transferring the cut section of the extrudate along a length of the extrudate support while preventing any orientation change of the cut section (inherent in the air bearings of Fig. 2, Items 22, 23)

Avery appears to be silent to the other claimed limitations. However, they all would have been prima facie obvious over DeMasters who teaches:

- a) applying a reference mark to extrudate as it exits the extrusion die (Fig. 3, Items 46, 48)
- d) correcting the orientation of the section of the extrudate in response to a reference mark misalignment (2:59-3:37)
- f) visually inspecting the orientation of the extrudate (2:59-3:37)

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of DeMasters into that of Avery in order to provide a sensor means which acts to detect any rotation in the extrudate which might cause print printed on the pipe by the printing wheel to wander over the diameter of the pipe and correct for the rotation of the pipe (DeMasters, 4:15-19). **As to Claim 10**, DeMasters' method operated continuously, and therefore must have visually inspected both first and second ends of the extrudate in order to know when to energize and de-energize the alignment correcting means (3:11-37). **As to Claim 12**, Avery teaches supporting the extrudate on an air bearing (Fig. 2, Items 22, 23). **As to Claim 13**, in Avery's method, the first and second sections of the extrudate are inherently separated (See Fig. 1, Log (11) and Item 17). Additionally, the cut section is transferred along a length of

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the extrudate support (Fig. 1, Item 12 after saw) and thereafter to a dryer tray separated from the extrudate support (Fig. 1, Item 20 and 3:56).

5. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Avery (USPN 5205991) in view of DeMasters (USPN 5431866), and further in view of Nelson (USPN 4906170). Avery and DeMasters teach the subject matter of Claim 8 under 35 USC 103(a) above. As to **Claim 9**, DeMasters' teaches a reference mark (Fig. 4, Items 46 and 48) and ink (3:38-45), but Avery and DeMasters are silent to applying the reference mark with an inkjet. However, Nelson teaches applying an inkjet mark to the extrudate (3:38-55). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Nelson into that of Avery and DeMasters in order to provide DeMasters' reference marks using a quick, easy, and cost effective method (Nelson, 1:66-2:2) that is also very accurate, non-contacting, and can be controlled by a computer (Nelson, 3:43-46).

6. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Avery (USPN 5205991) in view of DeMasters (USPN 5431866), and further in view of Sumino (USPN 5222594). As to **Claim 11**, Avery and DeMasters teach countering corkscrew deformation in response to visual inspection of the extrudate (see the rejection of Claim 8 and DeMasters, 3:11-37), but appear to be silent to the particular apparatus used in the claimed method. However, Sumino teaches correcting corkscrew deformation of a tubular form by contacting a surface of the tube with rollers having pivot axes aligned askew from a tube axis of movement (See Figs. 17 and 18, 2:48-52, and 2:57-3:2) along the tube support in a skew direction causing tube

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rotation counter to the corkscrew deformation in response to inspection (See Figs. 5-18, and in particular Figs. 14, Item 70, and Figs. 17 and 18). While Sumino and the other cited references appear to be silent to an “elastically deformable roller,” the Examiner submits that every material, including brittle ceramics, are capable of undergoing some amount of elastic deformation. In the alternative, the Examiner additionally submits that silicone and rubber rollers are known and common in the art. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Sumino into that of Avery and DeMasters because DeMasters teaches two rollers that accomplish the twisting correction action (Fig. 2, Item 26), and because Sumino suggests that the disclosed method is superior to using two rollers (2:16-38, and particularly 2:31-38) because of the increase in twisting forces that can be provided by using plural correcting rollers (2:31-38), which Sumino provides (2:46-3:2 and Fig. 8, for example).

Response to Arguments

7. Applicant's arguments filed 14 November 2005 have been fully considered but they are not persuasive. The arguments appear to be on the following grounds:

a) Avery fails to suggest applying a reference mark to the extrudate, correcting the orientation of the cut sections in response to a reference mark misalignment while the extrudate is supported on the carrier, transferring the cut section, and visually inspecting the orientation of the cut section. Avery primarily fails to recognize the problem of rotational misalignment of extruded pieces during drying.

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- b) The preventing cut section orientation changes is inherent in the air bearings of Avery. In fact, objectionable re-orientation occurring in cut sections supported on air bearings has necessitated the use of piece re-orientation after cutting.
- c) DeMasters' only teaching is to correct corkscrew exhibited by extruding striped plastic pipe by gripping roller means unsuitable for soft plasticized ceramic extrudate. Moreover, no means are provided downstream from the corkscrew correction and printing systems for controlling movement or correcting the orientation of cut sections.
- d) Nelson does not apply an inkjet reference mark, but rather a message
- e) DeMasters clearly fails to suggest inspection of cut ends of extruded tubing
- f) An amendment is provided to more particularly define the corkscrew correction step. Instead, it is directed to the use of soft deformable rollers that can urge the extrudate in a rotation direction counter to the corkscrew rotation without damage to the extrudate while it is supported on an air bearing.

8. These arguments are not persuasive for the following reasons:

- a) While it has been argued that Avery fails to recognize the problem of rotational misalignment of extruded pieces during drying, the Examiner submits that the step of drying does not appear to be found in the claims. Additionally, the part is supplied to a dryer tray (Claim 13), and therefore drying appears to occur as a separate step. The Examiner submits that DeMasters' process is a generic rotational alignment process necessitated by rotational twists occurring during the extrusion process, and that one of ordinary skill would have found it obvious to make the combination in order to correct rotational twists.

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b) The Examiner submits that no evidence has been provided to support the Applicant's position regarding air bearings necessarily causing twisting. However, the Examiner submits that rotational misorientation is common in extrusion processes, as shown by the method of DeMasters. Additionally, it is submitted that the ordinary artisan would find it obvious to use DeMasters' process to correct orientation errors regardless of which portion of the process caused the misorientation.

c) The Examiner submits that the length of the extruded portion processed in the reorienting apparatus would not materially change the reorientation process of DeMasters, or distinguish the claimed method from that of the combined method of Avery and DeMasters. Additionally, the disclosure in the Applicant's specification bridging pages 6 and 7 (paragraph [0023]) should be considered, which states that "It should be noted that the correction of the corkscrew deformation is conducted prior to the extrudate 14 being cut into the segments, 18, thereby eliminating the requirement to support a free extrudate segment 18 while attempting to correct for the corkscrew deformation."

It was argued that the rollers of DeMasters would be unsuitable for soft ceramic, however the claimed invention also provides rollers that must grip in order to produce the claimed orientation correction. It is unclear how these gripping rollers would produce a different result than those of the method of DeMasters. Additionally, it is noted that DeMasters appears to refer to the rollers of the process as "guide rollers" (3:9), rather than referring to the rollers as ones that grip.

d) Nelson teaches that it is known to apply colored ink to tubular extrudate using an inkjet. In view of Nelson's teaching that this non-contact method is very fast and accurate (3:43-46), it is

submitted that the ordinary artisan would have been motivated to incorporate the method of Nelson into that of Avery and DeMasters in order to increase the speed and accuracy of the process.

e) Note that the claim does not require inspecting a plan view of the cut end, but only visually inspecting the orientation of the cut section (See Claim 1). The Examiner submits that by DeMasters' teaching that the entire length of the tube is inspected, that the orientation of the cut end would also be inspected for its orientation. In the method of DeMasters, the stripe along the edge is continuously inspected, thus in the combination it would be inspected at both the first and second ends. It is unclear how the length of the extruded portion would change the reorientation process because one of ordinary skill would recognize that DeMasters' method could be performed on an article of any length.

f) The amendment is acknowledged. However, the new limitations directed to the particular apparatus used in the corkscrew correction are found in the method of Sumino. Moreover, Sumino motivates one to use the disclosed invention as being preferable to a two-roller system, such as that of DeMasters. Therefore, Sumino provides an improvement on DeMaster's method or reorientation, and motivation to make the combination.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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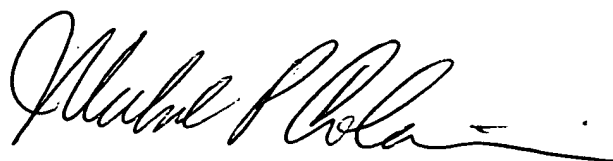
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450. The examiner can normally be reached on Monday - Friday, 7:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJD 1/18/06



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